Amendments to the Claims

Please cancel Claims 1, 2 and 4-6 without prejudice or disclaimer of the subject matter recited therein.

Please amend Claims 3, 7 and 8 to read as follows.

Claims 1 and 2 (Canceled).

3. (Currently Amended) ~~The apparatus according to claim 2,~~ A printing apparatus for performing printing using a printhead having a plurality of printing elements, comprising:

means for inputting print data;

converting means for converting print data to drive data corresponding to the printing elements;

transfer means for transferring the drive data to the printhead in a serial format in units of N bits at a time;

driving means for driving the printing elements based upon the drive data;

counting means for counting M-bits of data transferred first among the drive data in synchronism with transfer of the drive data by said transfer means, where N>M;

detecting means for detecting an increase in the value of a count obtained by said counting means; and

voltage generating means for outputting a voltage that drives the printing elements;

wherein if said detecting means has detected an increase in the value of the count, said voltage generating means raises the output voltage before said driving means performs drive based upon drive data transferred next,

wherein said voltage generating means comprises an error amplifier for outputting a control signal in accordance with an error between a reference voltage and an input voltage, and if said detecting means has detected an increase in the value of the count, the value of the reference voltage is changed, and

wherein said voltage generating means differentiates a signal that is output in accordance with detection by said detection means and adds a voltage, which has been obtained via a time-constant circuit and a current adding circuit, to the reference voltage.

Claims 4-6 (Canceled).

7. (Currently Amended) A printing apparatus for performing printing using a printhead having a plurality of printing elements, comprising:

means for inputting print data;

converting means for converting print data to drive data corresponding to the printing elements;

transfer means for transferring the drive data to the printhead a prescribed number of bits at a time;

driving means for driving the printing elements based upon the drive data;

first detecting means for detecting an amount of power load of printing elements driven simultaneously, based upon the drive data transferred by said transfer means;

second detecting means for detecting an increase in the amount of power load; and

voltage generating means for outputting a voltage that drives the printing elements;

wherein if said second detecting means has detected an increase in the amount of power load, said voltage generating means raises the output voltage before said driving means performs drive based upon drive data transferred next,

wherein said voltage generating means comprises an error amplifier for outputting a control signal in accordance with an error between a reference voltage and an input voltage, and if said second detecting means has detected an increase in the amount of power load, the value of the reference voltage is changed, and

wherein said voltage generating means differentiates a signal that is output in accordance with detection by said second detecting means and adds a voltage, which has been obtained via a time-constant circuit and a current adding circuit, to the reference voltage.

8. (Currently Amended) A method of controlling a printing apparatus for performing printing by a printhead having a plurality of printing elements each driven by electrical energy, the number of printing elements driven simultaneously being changed in accordance with drive data, said method comprising:

a transfer step of transferring drive data to the printhead in a serial format in units of N bits at a time;

a counting step of counting M-bits of data transferred first among the transferred drive data, where N>M;

a determination step of determining whether the number of simultaneously driven printing elements has increased greatly, based upon a count value regarding print data that has been transferred previously and a count value regarding drive data to be transferred later; ~~and~~

a generation step of generating a determination signal indicating the determination result and generating a voltage signal; and

an energy increasing step of increasing electrical energy by adding to a reference voltage of a DC/DC converter, which is supplied to the printhead, before the printhead is driven by drive data to be transferred later, if it has been determined that the number of simultaneously driven printing elements has increased greatly,

wherein the voltage signal is generated by a differential circuit and a time-constant circuit in the DC/DC converter.